



Pekka Mankila

UTILIZATION OF PERSUASIVE TECHNOLOGY IN E-COMMERCE

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Pekka Mankila

Bachelor's thesis

February 1, 2012

Degree Programme in Business
Information Technology

Oulu University of Applied sciences

ABSTRACT

Oulu University of Applied Sciences

Degree Programme in Business Information Technology

Author(s): Pekka Mankila

Title of Bachelor's thesis: Utilization of Persuasive Technology in E-Commerce

Supervisor(s): Teppo Räisänen

Term and year of completion: Spring 2012

Number of pages: 48+8

The aim of this Bachelor's thesis was to examine how persuasive technology is utilized on different e-commerce sites and based on the results to consider how the utilization can be taken even further. Based on those findings and improvement suggestions, a development of more successful e-commerce site is easier.

The theory needed in order to complete the qualitative research of this thesis was received from a research of Harri Oinas-Kukkonen and Maija Harjumaa called Persuasive Systems Design: Key Issues, Process Model, and System Features and from a book of Dr. Robert Cialdini called Influence: Science and Practise. Both sources suggested several different methods of how to persuade people. The case sites of this thesis were examined in order to find what of those persuasion methods was utilized and what were not.

As a result of this Bachelor's thesis, the persuasion methods used by the case sites were discovered, and based on the findings several development suggestions for e-commerce sites were made.

Keywords: persuasive technology, e-commerce, human-computer interaction

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1 INTRODUCTION

Nowadays, since the technology is constantly developing and making it easier to purchase products and services from the Internet, many people prefer to use e-commerce rather than real-life physical stores for buying processes. Due to that, it is important to make the e-commerce website as effective and persuasive as possible. By right kind of persuasion towards to the users and customers from the system it can be possible to increase the effectiveness of the site and also the sales level of the e-commerce site.

The aim of this Bachelor's thesis was to examine how persuasive technology is utilized on different e-commerce sites and based on the results to consider how the utilization can be taken even further.

The theoretical background of the thesis includes the definitions for persuasive technology and e-commerce and the main factors behind both. The definition for persuasive technology is divided into three different classes where the first class includes the definition for the whole concept of persuasive technology as a phenomenon and the two sub-classes explain two different approaches to the subject.

The first sub-class contains the definition of Dr. Robert Cialdini's Six Weapons of Influence, which is a theory about the psychology of persuasion and more in detail about different methods of influencing others in different situations (Cialdini, R.B, 1984, 76-81). The second sub-class explains the idea of persuasive systems design model which includes 28 different persuasive systems design principles used to design the web sites and systems. (Oinas-Kukkonen & Harjumaa, 2008,1).

The theoretical background also provides an overall definition of e-commerce. The main things behind the definition are the explanation of what e-commerce actually is, and where it might appear. These definitions are based on book of Alan Charlesworth: Key Concepts in E-commerce. Also some other electronic resources are used for this part of the theoretical background to explain some other issues related to e-commerce.

For this Bachelor's thesis, a qualitative research is conducted where the five most popular Finnish e-commerce sites, five most popular non-Finnish e-commerce sites and

three e-commerce sites of the companies from Kilpa-project, in which the School of Business and Information Management is participating, are chosen to be analyzed for different persuasion methods and factors in the design of the system. The source for finding the most popular e-commerce site is a web service called Alexa. The service lists the most popular websites in the world and that is why it is the most reliable source for choosing the sites for this research. The companies from the Kilpa-project cannot be found from Alexa, and because of that a different source must be used. The most reliable source for finding the best sites of Kilpa-project is the webpage of Oulu University of Applied Sciences.

The most important issues considered as result was the sites with most and least persuasive systems design principles and weapons of influence, and the most and least used persuasive systems design principles and weapons of influence. Based on the findings, some conclusions were made on how the persuasive technology could be utilized more efficiently on e-commerce in order to create more successful e-commerce system.

2 THEORETICAL BACKGROUND

2.1 E-commerce

E-commerce, or e-business, can be defined to be a buying, selling or exchange process happening online. (Charlesworth, 2007, 88) The number of e-commerce sites is constantly growing as the technology keeps on developing and the society becoming more and more technology concentrated. Participation in e-commerce creates advantages not only for customer but to companies as well.

First of all, one great advantage for companies is that e-commerce creates a new sales channel which can reach great number of customers. Also all kind of product promotions and cost reductions are easier to do in the Internet than in real world for the same specific reason that Internet reaches great amount people on a daily basis. For this same reason, companies are able to develop their brands and create closer customer relationships more efficiently. (Emerald Insight Staff, 2005, 1)

Maybe the greatest advantage for customers which e-commerce gives is that it allows them to purchase the products whenever they wish without the limitation of time and place. Internet is never closed and the user can log in there whenever and wherever it is most suitable. Also, using e-commerce for buying purposes can remove nearly all of the processing errors which humans could possibly make and it saves the buyer's time for sorting out the products and helps to purchase alternative products as well. (E-Commerce Education, retrieved 8.11.2011)

2.2 Persuasive Technology

Persuasive technology can be defined to be any interactive computer or system which aims to change the attitudes or behaviors of the user. Originally, the purpose of computers were not to persuade the users but to process and store different information and data. But during the time, computers have transferred from purely professional usage to influence also the everyday lives of people all around the world; they have developed to be much more influential and persuasive by design. (Fogg, 2003, 1.)

In today's modern technological society Internet has constantly growing position in people's lives. Different web sites and applications are probably the most widespread form of persuasive technology which can be found. Most common persuasive systems in the Internet are for example all kinds of commerce sites, social media sites, and variety of education, learning and training sites. (Fogg, 2003,2.)

Even though the Internet is the most visual and recognizable form of persuasive technology, there are also aspects, which are not so easy to recognize, of how the technology affects our attitudes and behaviors. The other forms can be anything from mobile phones to computerized trailers, which aim is to try to make drivers to obey the speed limits. (Fogg, 2003, 2.)

Some of the forms of this technology can even be totally invisible to the user. The reason for that is the fact that embedded computing is becoming more common all the time. Embedded computing allows the different persuasion forms to integrate more efficiently into everyday lives of people. (Fogg, 2003, 2-3.)

Persuasive technology usually persuades the users on two different levels of persuasion. The levels can be divided to microsuasion and macrosuasion. When a system persuades on the macrosuasion level, the only reason for the existence of the system is to change people's attitudes or thinking. Those macrosuasion systems can aim for example to help people to stop smoking or to avoid unwanted pregnancy. On the other hand, microsuasion's main purpose is not to persuade or motivate the users to change their thinking. Microsuasive elements are usually part of a bigger system, and the microsuasion elements try to make the user to reach some other big target. Microsuasion is often used for example in educational systems and one goal of the system can be that the user spends more time using the system to get better understanding of the subject being taught. (Fogg, 2003, 17-18.)

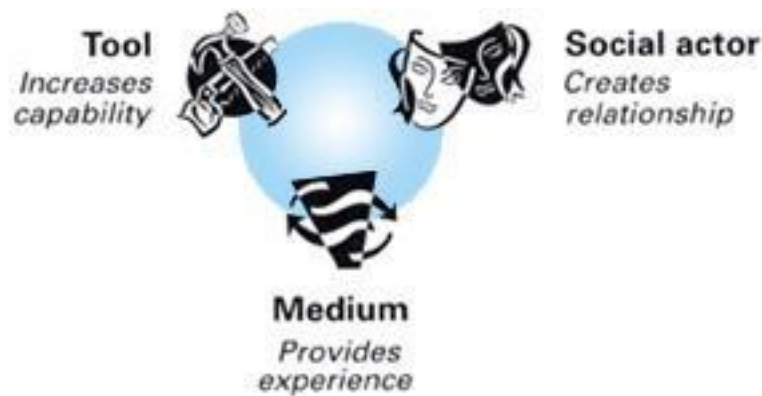


Figure 1. The functional triad illustrating the different roles of computers in persuasion situations (Affective design, 2011. Retrieved 27.10.2011)

Also, the role which the computing system plays in the persuasion situation is crucially important. According to B.J Fogg, the computer can take three different roles in those situations. The system can work as a tool, as a social actor, or as a medium. The framework which describes those different roles is called the functional triad. (Fogg, 2003, 23.)

When the modern computers first emerged their sole purpose of existence was to store data and information and to execute different calculations. Computers are still seen as tools in appropriate situations but the roles of the computing systems have expanded from plain tools to other roles as well. Still the computer act as tools when the situation include complicated measurements or calculations which are easier to perform with the help of computing system. (Fogg, 2003, 31-32.)

The second role which computers play in persuasion situations is a social actor. When a computer works as a social actor, it becomes virtually a living entity. One key factor in this kind of behavior is that the computer creates a relationship with the user. That kind of behavior of a computer is very effective when the persuasion takes place in an interactive technology. The qualities which make the computer a social entity are for instance providing people some positive feedback when they have succeed in doing something correctly or providing social and interactive support for the users. It can also be seen clearly that the humans actually humanize the computers with their own actions. People feel different feelings towards the computers in different situations. For example, people get angry with computers when something does not work as expected

or they praise the computer for helping to solve a problematic situation. (Fogg, 2003, 26.)

Computers can also act as a medium when the focus of the system is in providing the user an experience. Working as a medium can help the users to study different cause-and-effect relationships between different things, or for example help them to replicate some sort of a behavior. The role of being a medium can still be divided into two different classes which are symbolic and sensory media. When dealing with symbolic media, the power of the persuasion is on different kinds of symbol used to provide information to the users. The symbols can be any visual elements from text and graphics to charts and icons. Those elements work on the sensory media level when they give the user some sort of sensory experience. For example if the system provides the user some information with the help of audio, then the hearing sense of the human is being targeted creating a sensory experience. (Fogg, 2003, 25.)

There are at least six big reasons why computers are much better persuaders than human beings. The first big reason is that computers are much more persistent than humans. Computers do not give up even though they would get rejected for couple of times. They do not have feeling like humans do. Humans can feel fatigue, or they can feel dejected or frustrated after failing to persuade people. Computers can persuade the people around the clock and without breaks. The users tend to saturate to say no all the time and every human have moments when approving is easier than declining. (Fogg, 2003, 7-8.)

The second advantage which the computers have over humans is that they can provide the user total anonymity. This can be crucially important especially when dealing with sensitive areas such as for example sexual issues or things related to mental health, which people might feel uncomfortable talking with a human. Also, second great advantage which anonymity provides is that it helps the people to break social obstacles which often limit their behavior. Breaking those obstacles makes it easier for the people to change their thinking and behavior. (Fogg, 2003, 8.)

Computers have a capability to deal with much greater amount of information and data than human beings. They are also capable of using exactly right kind of persuasion data more efficiently for all kinds of different situations of persuasion. Those factors also

give the computers an advantage over humans when it comes to persuading the users. (Fogg, 2003, 8.)

Sometimes a right sort of visual impression of the information can be more persuasive to the user than the information itself. Computers can display the information in great variety of visual ways. The amount can be so great that the humans cannot simply match it. Computers can use different kinds of photos, statistics, audio, videos, and other visual ways of presenting the information to the user. (Fogg, 2003, 9.)

If the demand of the information rapidly increases, the humans often suffer from ability to grow efficiently enough along with the demand. It can be almost impossible for a human to respond to the demand of millions of users without any help from computing systems. And also, often if the power of the human persuader is mostly based on great interaction with the audience, the message might lose some of its effectiveness when the computers are being utilized to bring the message to those great masses of people. (Fogg, 2003, 10.)

Humans cannot be in several places at the same time or persuade big masses of people in totally different areas of the world simultaneously. Computing systems have the capability to succeed in that. Since the Internet can reach almost every human, even millions of people can be possibly persuaded simultaneously. In other words, those millions of people can use the system at the same time. Also, the computers can even access private places of the users where the human persuaders would not be allowed to enter, such as bathrooms and bedrooms. Also the human persuaders have some places where they are not physically able to enter. Those places can be for example different embedded systems within another machine. (Fogg, 2003, 10-11.)

2.2.1 Weapons of Influence

The weapons of influence are six methods of persuading people to do something defined by Dr. Robert B. Cialdini in his book "Influence: The Psychology of Persuasion". Those weapons are reciprocity, commitment and consistency, social proof, authority, liking and scarcity. (Cialdini, 1984.)

Reciprocity can be defined simply that people usually return a favor. If you have given something to some person then that person is very likely to return the favor at some point. The power of reciprocity is based on the fact that the people feel that they owe you something since you did them a favor earlier and they somehow have to pay it back. Dr. Cialdini provides a great example of this power in his book. An experiment was conducted in which a college professor sent dozens of Christmas cards to total strangers. As a result of the experiment, the professor received a great amount of cards from those strangers without them even questioning anything about the identity of the professor. This phenomenon of reciprocity can be seen as great rule in our society. Usually it is assumed that everyone follows the rules of the society and those who break rules are many times perceived to be imposters, loafers or something else negative. People usually care a lot about their own reputation and they do not want to be perceived negatively. (Cialdini, 1984, 17-20.)

The second weapon is called commitment and consistency. If you can somehow commit the people to some idea either orally or in written form, it is much more likely that they will stay more loyal to the goal than without the commitment. An example of how commitment changes human behavior is given in Cialdini's book. Couples of researchers were observing the behavior of humans at a horse racetrack and they noticed that people turned from being pessimistic and cautious to being much more confident and optimistic after they had placed a bet on some horse. Of course none of the conditions on the racetrack did not change after they placed their bets but the pressure of being consistency made the gamblers convince themselves that they had made an excellent decision of picking the right horse to win the race. Consistency is very strong source of motivation. The reason for that is the fact that consistency is generally seen as an appreciated quality in our society and is often associated with intelligence and strength of mind whereas inconsistency is usually seen as the opposite for that. Since

consistency has such a big part in human behavior, committing people to some idea can make them very loyal and motivated because they want to believe that they have made a correct decision. (Cialdini, 1984, 56, 59.)

Social proof means that people usually do what other people are also doing and what is generally seen as an acceptable behavior. The human mind tends to think that less mistakes are made when acting like most of the other people. This powerful principle creates all different social etiquettes of a society. Some examples of these etiquettes are for example the way people act and do things when attending to a dinner party or how people act when queuing somewhere. In both situations there are generally acceptable ways of acting and breaking those manors are seen as unacceptable way of acting. (Cialdini, 1984, 117-118.)

Liking is also a very powerful weapon of influence. The basic idea of this weapon is that people say yes more often to someone who they actually like than to someone who they do not like. For example Tupperware-parties strongly utilize this power of liking. It has been estimated that because the sales representative creates a warm and friendly environment to the party, the probability of people purchasing some of the products are nearly double as much as without the power of liking. Creating the friendly environment is a powerful source of liking but there are also other ways of increasing the level of liking. (Cialdini, 1984, 168-170.)

Physical attractiveness of the persuader is also a very big factor when the goal is to make people like something. The reason for the power of attractiveness is based on a phenomenon called halo effect. Halo effect occurs when some specific positive quality of a person dominates the picture of how the person is seen in the eyes of others. According to studies related to this subject it has been discovered that people often incorporate qualities such as talent, friendliness, integrity and intelligence to physical attractiveness. This kind of incorporation is usually subconscious and people do not realize or admit that they think this way. (Cialdini, 1984, 172-173.)

Another way of increasing liking is similarity. People usually like other persons which have for example similar opinions, qualities, background or way of living. This creates a powerful way of influencing people's judgment and decision making. There is a great possibility that in some situations the power of similarity can be faked. Dr. Cialdini provides an example of this kind of false behavior in his book. Car sellers are often

trained to look out for some references about people's likes and interests. Many times this is done by exploring the customer's old car. If there are for example some sport equipment in the car the seller can easily lie about sharing the same interest. With that little lie the seller is able to increase the level of liking significantly in the eyes of the buyer. (Cialdini, 1984, 174-175.)

The fifth weapon of influence is called authority. According to that people usually follow and obey what the authorities ask them to do. People feel some sort of sense of duty towards the requests of the authorities and do not dare to question them. Basically everyone is taught from the early childhood that the authorities such as the police must be obeyed and anything else than that is not acceptable. (Ciadini, 1984, 213-216.)

The last weapon which Dr. Cialdini presents in his book is called scarcity. Basically it means that the fear of losing some opportunity plays a big part in people's decision making process. It has been discovered that the chance of losing something is much more powerful in the minds of people than actually gaining something equally valuable. The author presents in his book an example of how this power of scarcity works in practice. According to the example it is more effective to say "You can lose some significant health benefits if you do not use five minutes per month to examine your breasts" than to say "You can gain some several potential health benefits by using only five minutes per month to examine your breasts". Also all kinds of collecting hobbies are based on the power of scarcity since the value of the collectible is usually determined by its scarcity. (Cialdini, 1984, 237-239.)

Also different "limited time only" types of sales utilize scarcity very efficiently. The force of scarcity demands the customers to make their buying decisions immediately or otherwise the offer will be gone. Sometimes the pressure can effect the judgment of the buyers negatively creating a potential opportunity for different kinds of hustlers to trick the money of the customers. (Cialdini. 1984, 243.)

2.2.2 PSD-Model

PSD-model stands for Persuasive Systems Design model and it is presented in the article “Persuasive Systems Design: Key Issues, Process Model, and System Features. Communications of the Association for Information Systems” written by Harri Oinas-Kukkonen and Maija Harjumaa. The article discusses about “the process of designing and evaluating persuasive systems” and describes how the final product may function or what kind of things it may contain. (Oinas-Kukkonen and Harjumaa, 2008, 1.)

In the article there are 28 different design principles presented which can be taken into account when designing a persuasive system. The principles are being utilized in the research work for this Bachelor’s thesis to analyze and evaluate different web sites.

The design principles are divided into four different categories. Each category consists of seven different principles. The first category, primary task support (Table 1), consists the design principles which primarily aim is to help and support the user to perform the primary task at hand. (Oinas-Kukkonen & Harjumaa, 2008, 8.) The second category is called dialogue support (Table 2). The principles in this category aim to implement computer-human dialogue support and that way help the user to keep on going for their goal. (Oinas-Kukkonen & Harjumaa, 2008, 9.) The third category is called system credibility support (Table 3). This category and the principles aims to help to design a system with high credibility and also higher level of persuasion. (Oinas-Kukkonen & Harjumaa, 2008, 10.) The fourth and the last category is called social support (Table 4). The principles in this category aim to motivate the users by increasing the social influences of the system. (Oinas-Kukkonen, Harjumaa, 2008, 10.)

Table 1. Primary task support. (Modified from: Oinas-Kukkonen & Harjumaa, 2008, 8-9.)

Principle	Explanation
Reduction	A system should simplify complex activities into easy tasks for the user
Tunneling	A system should guide the users through the attitude changing process and provide actual means for action which helps achieving the target behaviour

Tailoring	A system should provide the users tailored information according to their interests, needs and likes
Personalization	A system should offer the users personalized content
Self-monitoring	A system should somehow allow the users to keep track of their performance or status
Simulation	A system should somehow allow the users to observe the link between the cause and the effect
Rehearsal	A system should provide a way for the user to rehearse the target behavior

Table 2. Dialogue support. (Modified from: Oinas-Kukkonen & Harjumaa, 2008, 9-10.)

Principle	Explanation
Praise	A system should somehow praise the user by using things like words, images, symbols, or sounds to give the user feedback
Rewards	A system should somehow give the user some virtual rewards for performing the target behavior
Reminders	A system should somehow remind the user about the target behavior when the user is using the system
Suggestion	A system should suggest that the users perform the target behavior
Similarity	A system should somehow imitate the users
Liking	A system should look appealing and visually attractive in the eyes of the user
Social role	A system should adopt a role of social actor

Table 3. System credibility support. (Modified from: Oinas-Kukkonen & Harjumaa, 2008, 10)

Principle	Explanation
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Trustworthiness	A system should provide the users information which is truthful and fair
Expertise	A system should provide the users information which shows knowledge, experience, and competence
Surface credibility	A system should have competent appearance
Real-world feel	A system should provide the users information about the organization and people behind the system
Authority	A system should refer to people in the role of authority
Third-party endorsements	A system should provide the users endorsements from respected resources
Verifiability	A system should provide a way for the user to revise the accuracy of the site content from external sources

Table 4. Social support. (Modified from: Oinas-Kukkonen & Harjuma, 2008, 11)

Principle	Explanation
Social learning	A system should provide the user a way to observe the other users which are also performing the same target behavior
Social comparison	A system should provide the user a way to compare own performance with the performance of the other users
Normative influence	A system should provide a way to gather together the users which have the same goal
Social facilitation	A system should provide a way for the user to discern other users with the same target goal
Cooperation	A system should provide a way for the user to cooperate with the others
Competition	A system should provide a way for the user to compete with the others
Recognition	A system should provide a way to publicly recognize the people who manage to perform their target behavior.

3 CASE DESCRIPTION

3.1 Methodology

For this Bachelor's Thesis a qualitative research is conducted in which 13 different e-commerce web sites are examined and evaluated. The things which are examined are those 28 persuasive systems design principles which were introduced in the theoretical background of this thesis. The e-commerce sites are divided into three different categories: finnish sites, non-finnish sites and to those sites which are participating into Kilpa-project in which Oulu University of Applied Sciences the School of Business Information Management is taking part in.

The selection of the finnish sites and non-finnish sites are based on popularity and in this case the five most popular is chosen for both categories. The source for finding the most popular sites are a web service called Alexa which lists the most popular sites in the world. For the Kilpa-project category the companies which happened to have e-commerce were selected. Only three of the Kilpa-project companies had some sort of e-commerce. The source for finding the case companies for this part is the homepage of the Kilpa-project.

The results are marked in simplistic sheet where each persuasive systems design have own individual row and every case site have own individual column. If some site has some design principle it is marked into the sheet with cross. After all the sites and principles are examined there is a conclusion of the design principles telling which principles were the most common and which ones were the least common. Based on the conclusion it is possible to draw some further observations of how persuasive technology is utilized in e-commerce and how the utilization could be taken even further.

3.2 Case companies

The source for finding the case companies is a web service called Alexa. It is a web site which lists the most popular web sites in the world. The case companies are divided into three different categories and the companies are introduced in the next three chapters.

3.2.1 Finnish sites

The Finnish sites selected for the research are the following:

1. Huuto.net, <http://www.huuto.net>

Huuto.net is very popular Finnish auction site where the users are able to put their goods on sale. After the item is placed on sale for some limited time the tender between anxious buyers takes place and after the limited time ends, the user with the highest offer gets to buy the item. The items on sale varies greatly from less expensive items such as clothes and books to more expensive goods such as different kinds of vehicles and other valuable items. (huuto.net, retrieved 7.11.2011.)

2. Nettiauto.com, <http://www.nettiauto.com>

Nettiauto.com is a popular website where the users are able to sell, buy and browse for cars. Also there is a possibility to rent and trade cars. The users are both private persons and car selling businesses. The service has over 75 000 announcements and from those about 46 000 are placed by businesses and the rest by private users. (nettiauto.com, retrieved 7.11.2011.)

3. Verkkokauppa.com, <http://www.verkkokauppa.com>

Verkkokauppa.com is a store selling different electronic devices for all kinds of using purposes. The business focuses to sell the devices not only online but also in their three physical stores located in Helsinki, Tampere and Oulu. (verkkokauppa.com, retrieved 7.11.2011.)

4. Gigantti.fi, <http://www.gigantti.fi>

Gigantti.fi is the e-commerce site of the company named Gigantti which has 40 physical stores all around Finland. Gigantti sells different home electronics and also the telecommunication and data devices related to that. (gigantti.fi, retrieved 7.11.2011.)

5. Pizza-online.fi, <http://www.pizza-online.fi>

Pizza-online.fi is an online ordering portal through which the users are able to order pizza, kebab and other fast food meals from different restaurants located all around Finland. (<http://www.alexa.com/siteinfo/pizza-online.fi>, retrieved 7.11.2011.)

3.2.2 Non-finnish sites

The non-finnish sites selected for the research are the following:

1. Amazon.com, <http://www.amazon.com>

Amazon.com aims to be the most customer-oriented company in the world. The company wants to offer their customer the possibility to purchase nearly anything imaginable with as low price as possible. The website also wants to offer the customer personalized and extremely easy buying experience which includes for example one-click buying, and all different sorts of product reviews, registries and certificates. (Alexa, <http://www.alexa.com/siteinfo/amazon.com>, retrieved 7.11.2011.)

2. ebay, <http://www.ebay.com>

Ebay is the biggest auction site in the world where the users are able place their items for sale. (Alexa, <http://www.alexa.com/siteinfo/ebay.com>, retrieved 7.11.2011) The site has over 97 million active users and the range of products on sale is enormous. According to the company's website the total value of the goods sold, in 2010, was nearly \$ 62 billion. (eBay, <http://www.ebayinc.com/who>, retrieved 7.11.2011.)

3. Ikea, <http://www.ikea.com>

Ikea is world-famous Swedish company selling furniture and different accessories with relatively cheap price and with their easily recognizable design. The company has also five physical stores in Finland. Ikea.com website is also the company's website but also

an e-commerce site where the company's products can be purchased by the customers. (Ikea, <http://www.ikea.com>, retrieved 7.11.2011.)

4. Best Buy, <http://www.bestbuy.com>

Best Buy is an international retailer offering their customers all sorts of electronics and entertainment software under various different names such as Best Buy, Magnolia, and Future Shop. Bestbuy.com is e-commerce website where all the products can be purchased online. (Alexa, <http://www.alexa.com/siteinfo/bestbuy.com>, retrieved 7.11.2011.)

5. Walmart Online, <http://www.walmart.com>

Walmart is a huge American storechain offering an enormous wide range of products to their customers with as cheap price as possible. The products vary from retail and clothing products to recreational and home accessories. Walmart.com is an online store where the company's products are available for sale. (Walmart, <http://www.walmart.com>, retrieved 7.11.2011.)

3.2.3 Kilpa-project companies

The Kilpa-project companies selected for the research are the following:

1. ATK-Central, <http://www.atk-central.fi>

ATK-Central is a specialized shop located in the centre of Haukipudas selling IT-equipments and computers. The company also offers different maintenance and installation services for their customers' computers. The company is also doing e-commerce by selling their products on their website. (ATK-Central, <http://www.atk-central.fi/Shop/index.php/about-magento-demo-store>, retrieved 1.12.2011)

2. Taitonetti Ky, <http://www.taitonetti.fi>

Taitonetti Ky is a small Oulu-based company offering all sorts of different services related to IT-field. The company's services include IT-support services, IT-consulting

services and different IT-training services. (Taitonetti Ky, <http://www.taitonetti.fi/palvelut>, retrieved 1.12.2011)

3. Tuonela Productions Ltd, <http://www.tuonelaproductions.com>

Tuonela Productions Ltd is a company, founded in 2006, working in the field of game development but also offering different consulting services for their customers. The company also does business by distributing Finnish board games to different areas of the world. The products of the company are also available for sale in their e-commerce site. (Tuonela Productions Ltd, <http://www.tuonelaproductions.com/about/>, retrieved 1.12.2011)

3.3 Results

In this chapter the results of each site category are analyzed. The results can be found from the appendices of this thesis

3.3.1 Finnish sites

Weapons of influence

The Finnish site with most weapons of influence found was Huuto.net. Four weapons were discovered from the page. They were reciprocity, commitment, social proof, and scarcity. Huuto.net allows its users a possibility to write reviews on other users. In my opinion, a great way of receiving reviews from other users is to write reviews for them. That way the users can return the favor by writing a review back.

Commitment appeared on the page when the users place an offer for some product. Once the offer is placed, there is no easy way of taking back the offer. The users are expected to respect those offerings which also act as promises of purchasing the product.

In my opinion, some of the popularity of Huuto.net is based on social proof. Everyone thinks that Huuto.net is used and visited by big amount of users. The basic idea behind

this weapon was that people usually do what other people are doing as well. When Huuto.net is used by great amount of people, even more people are likely to use the site.

Scarcity appears on the page as well. The products are available for sale for limited time only, and when the limited time ends, the opportunity of purchasing the product is lost and gone.

The Finnish site with least weapons of influence was Verkkokauppa.com. Only one weapon, commitment, was discovered from the site. The users have the possibility to register to the system and create own user account. By creating an own account, the user is more committed to the site than without the account. Also, with the existence of own account, the user is much more likely to return to the site again. That allows the site to increase customer loyalty.

The Finnish site with second most weapons of influence was Pizza-online.fi. The site contained three weapons which were commitment, liking and scarcity. Commitment on this page was similar to what was discovered from Verkkokauppa.com. The user is committed to the system by allowing them a possibility of creating own user account. Once the account is created, the user has the possibility of writing reviews on different restaurants on the system.

The site was also using visually attractive figures on the site. As already mentioned in the theoretical background of this thesis, visually attraction is one way of increasing the level of liking. People usually tend to judge things based on the visual attractiveness of the product. Products which look ugly to the users are not as likely to be so successful than products looking beautiful.

Pizza-online.fi was offering their customers free home delivery for the products if the order is placed on some specific time of the day. If the customer fails to order during that period of time, the possibility of free delivery is lost. In my opinion, this can be seen as utilization of scarcity.

From Giganti's e-commerce, two weapons of influence were discovered. The found weapons were commitment and scarcity. The site gives its users a possibility to register to the system and to create own customer account. That allows the system to commit the user more efficiently to its ideas and goals.

Gigantti is having different limited time only sales very often. Some of the products are sold with cheaper price for some limited time and if the customer does not purchase the products during that specific time, the possibility of purchasing the product with the cheaper price is lost.

From Nettiauto.com, two weapons of influence were discovered which were commitment and liking. Nettiauto.com is also providing its users a possibility to register to the system. Nettiauto.com is increasing the level of liking by creating a sense of similarity to their users. The system is using the jargon related to cars very much and in my opinion, that is a great way of connecting with their customers which often are car fanatics.

Primary task support

The most common persuasive systems design principle found for primary task support on Finnish sites was reduction. It was utilized on every Finnish site in some way. Reduction on e-commerce sites can be as simple as categorizing the products so that the users are able to find the specific product very easily. Some sort of reduction is very important on these kinds of sites so that the users do not have to spend lot of their time browsing through all the products. With the time and efforts of the user saved, a greater customer satisfaction will be gained.

The only site utilizing tunneling was Gigantti.fi. They offer their users a possibility to create personal wish lists where all the products desired can be added. I feel that while the users browse through the site to add products to the wish lists, it can allow the system a possibility to persuade them even more along the way.

Tailoring was not utilized on any site. For example the products sold by Verkkokauppa.com, Gigantti.fi and Pizza-online.fi are such products that they are bought by the entire markets instead of only segments like women or men. This kind of tailoring might be more useful on for example sites selling clothes.

Huuto.net was the only site to utilize personalization. In my opinion, the sites should definitely utilize the power of personalization much more. The users are much more likely to be persuaded by information which is specially targeted to him/her instead of randomly targeted information. In this case, the personalization can be for example personalized product recommendations. It is much more likely that the personalized

recommendations will be something that the user likes compared to random recommendations.

Self-monitoring was used only by Huuto.net. Self-monitoring is used to allow the users to follow how they are doing in the auction for some specific product. They can see immediately if they are not in the lead anymore and how much they have to offer to take the lead again. In my opinion, this kind of self-monitoring is a good thing on this kind of auction site but not so suitable for the other sites.

Simulation and rehearsal was not utilized on any site. At least rehearsal is quite useless in e-commerce. The idea of rehearsing to buy products sounds very weird and the sites are so logically designed that there is no need for rehearsing to use them. On the other hand, simulation might be possible to be utilized on these sites. The user could be given some way to simulate for example how the design of their homes would look after purchasing some of the company products.

Dialogue support

The most common findings for dialogue support on Finnish sites were reminders and suggestion. Those principles were found on every site. Reminders were most often some sort of newsletters send to the user's email. In my opinion, this kind of reminding of the users about their target behavior is crucially important. It cannot possibly be good for the e-business if the users for some reason forget the existence of the site and stop visiting the page for buying purposes. Even worse, the customers can even be lost to the biggest competitor.

Suggestion was also found on every Finnish site. Most often, suggestions were found on the index page of the e-store. The suggestions were of course meant to increase the sales of some specific product. In my opinion, suggestion of different items for the customer is very basic thing in selling. The seller suggest some product for the customer which then decides whether he/she is interested of purchasing that specific product

Three of the principles for dialogue support did not exist on any page. Those principles were praise, rewards and social role.

It is very hard to come up with the reason why the e-commerce sites do not utilize rewards. In my opinion, it would be a good idea to create some sort of regular customer

program for e-commerce. When the customer has purchased enough products and spent enough money on the site, he/she would get some sort of reward. The reward could be for example discount for the next shopping. This kind of program would help the company to increase their customer loyalty and even create closer relationship with the customers.

Social role did not also exist on any Finnish site. One reason for that might be that the companies want to keep their e-stores strictly as store instead of social actors. It certainly would be possible to make the store a social actor which can communicate and interact with the system users.

Liking was utilized on two sites. On both sites liking appeared so that there were some nice looking pictures of some mascot. In my opinion, it is quite insignificant whether the site uses those appealing photos. In the end, the customers will make their buying decision based on other things such as suitability of the products to their needs, price and quality instead of those nice looking pictures.

Similarity was only found on one page. The use of this principle is highly dependent on what the sold products are like. For example in this case, similarity was only found on nettiauto.com which is selling cars. It is easy for them to use similarity by identifying with their customers by using the certain jargon which is related to cars.

System credibility support

Two most common principles found from system credibility support were expertise and surface credibility. Expertise appeared on every page in such way that the sites are regularly updated and there were no information which was out of date. Creating a sense of expertise to the customer is very important. Most of the customers prefer to buy their products from an expert instead of someone who is not an expert.

As mentioned before, surface credibility was also found on every Finnish page of the research. Each page had very competent look and design. That way the user do not have to spend a lot of time of figuring out how the system works and where can each product be found. That increases the customer satisfaction significantly and the possibility of the customer returning to the e-commerce again to do more purchases.

The least common principle in this category was authority. None of the pages referred to the words of authorities. Verifiability and real-world feel were both utilized by one page. On nettiauto.com, there was an announcement which said that the user has a possibility to check the information of the sold car and the seller from the Finnish Transport Safety Agency by SMS. Maybe the reason why verifiability was not utilized on every page is that the companies feel that their customers trust the information provided by the company. This is very often true.

Verkkokauppa.com was the only Finnish page utilizing real-world feel. The company had some pictures of their workers and real-world store on their page. In my opinion, utilizing the real-world feel would be an important. It is a great way to show the customer that the company is filled with real living people and thoughts instead of only robots which provide the information to Internet. That can increase the trust of the customer towards the company. When the trust of the customers rises, usually the sales numbers do as well.

Trustworthiness was utilized by every page except for Huuto.net. The reason why Huuto.net is not utilizing this is that the product information is always placed by the seller, which is a private person. Huuto.net does not sell the products themselves. And it is always up to the seller, what kind of information he/she wants to place alongside with product. Other companies sell the products themselves, and all of them placed the detailed product information along side with the product. That is a great way of increasing the trust of the customers to the company. The detailed product information creates the sense of truth to the system.

Third-party endorsements were utilized also by every page except for Huuto.net. By providing the users some endorsements from reliable and respected sources, the trust of the customers can be increased. For example, if the webpage provides an endorsement which tells the customer that they are using secure connections to paying online, the customer will get the feeling that his/her credit card information will not be stolen. Many people are afraid of paying online because of the possibility of the credit card information ending to wrong hands. Right kind of endorsement can comfort the fear of the customer, and he/she will do the shopping.

Social support

The most common principles for social support on Finnish sites were cooperation and social learning. Both principles were found on every page except for Verkkokauppa.com. In all the cases the users were able to cooperate by writing reviews on both the products and on the site as well. In my opinion, ability for the users to be able to cooperate is a great addition to the system. People usually want to hear other people's opinions about certain things, and they give great value for the opinions. If some specific thing is seen positive by many people, the chance that the user will also like it is significantly greater.

In my opinion, the ability to write reviews for other users to see can be seen both as cooperation and social learning. The users can learn many things by reading the reviews like for example how do the product work and is it worth buying. Like mentioned already in the previous chapter, people do put a lot of value on other people's thoughts and opinions. In my opinion, the opinions of fellow buyers can be much more valuable than the opinions of the seller. Sellers usually tells the buyers whatever it takes to make them purchase the product but the opinions of other users are totally honest and based on experience from using the item.

The least common principles for social support on Finnish sites were normative influence, social facilitation, and recognition. Those principles did not exist on any page. In my opinion, the reason why those principles did not exist might be that they are not so suitable for e-commerce purposes. Why should the e-commerce make their customers feel norms or peer pressure? The purchases of the customers must be based on total voluntary instead of pressure.

Social facilitation and recognition would be even quite challenging to execute on the e-commerce sites. Most of the customers prefer to purchase their products from the store anonymously without creating a customer account to the site. It would be nearly impossible and even illegal to track down anonymous users in order to give them some recognition. Of course, if registering to the system would be mandatory in order to be able buy the products; it would be possible to give recognition for the users. But still it is quite likely that most of the users would not care about the public recognition. E-commerce customers usually care only about the ability to purchase the products efficiently and reliably.

The problem of executing social facilitation on e-commerce sites might be that the users would not probably like the fact that their buying behaviors could be followed in real time. Some of the reliability of the store and the possibility for anonymous buying would be in jeopardy then.

Competition was utilized only on Huuto.net. The reason for that is that the page is an auction site and that naturally brings the competition for purchasing products. For other kinds of e-commerce sites the competition for the right to purchase the product would be useless, even stupid. Normal stores do not leave a willing customer without the product if it can be in any way avoided. No sensible business will turn down the money of the customer.

3.3.2 Non-finnish sites

Weapons of Influence

The non-Finnish site with most weapons of influence found was eBay. The site contained four different weapons. The weapons discovered were commitment and consistency, social proof, authority and scarcity. On eBay, the user has the possibility to take part in tenders for the right to purchase some product. Once the user has placed his/her offer, a promise of buying the product is made which is usually expected to be honored. Also, another way how eBay commits its users to the system is that the users have a possibility to register to the system and create their own customer account.

In my opinion, eBay was also utilizing social proof. eBay is super popular auction site which has millions of daily users which has to create a sense of social pressure for the users. Since everyone else is there, the user also has to go there in order to keep up with the trends.

Since the products sold on eBay are usually sold by private persons instead of eBay itself, some rules has to be made in order to keep some sort of order on the site. In my opinion, when using eBay, the system feels like an authority which is telling the users about rules which has to be obeyed when using the system. This kind of authority can be extremely strong for the users. Users might feel that there is no other alternative but

to follow the rules set up by the authority figure. If you do not follow the rules, you might end up losing your right to use the system.

Scarcity was also utilized by eBay. Since the site is an auction site, the products are available for sale for some limited time only. If the product is not purchased by the user during that short period of time, the possibility of purchasing some specific product is lost most probably forever.

All the other non-Finnish sites of this research consisted of two weapons of influence each. Amazon.com, Best Buy and Walmart were all utilizing commitment and consistency and scarcity whereas Ikea was utilizing commitment and consistency and liking.

Commitment and consistency on each four pages was such that the user is expected to register to the system and creating own customer account. With the existence of own customer account, it is easier for the company and for the user to follow the orders and other relevant information. Also when the customer has his/her own account, the possibility of returning again to use the system is greater than without the account.

Amazon.com, Best Buy and Walmart all were utilizing scarcity on their systems. The sites were having different limited time sales. The possibility of the user making more impulsive purchases increase when the product is available for sale with cheaper price and for limited time only. The possibility of losing the opportunity is often very strong motivational issue for the customers. It can even help to outcome the fact that the user does not actually need the available product. The cheap price and the limited time seduce them to make impulsive purchases.

Ikea was the only non-Finnish site of this research to utilize liking as a weapon of influence. The site has plenty of different kinds of comfortable looking pictures of decoration solutions made by the company's products. In my opinion, those pictures can be very motivational for the customer segments of Ikea. Usually the customer segments of Ikea are interested of decorating their homes with Ikea's furniture. The pictures help the user to visualize and understand even more detailed about different possibilities how the company's product could be utilized.

Primary task support

The most common persuasive systems design principle found for primary task support on non-Finnish sites was tunneling. That principle was found on every non-Finnish page of this research. On all the pages, the user has a possibility to create own wish- or buying lists. Like mentioned already in the previous chapter of this thesis, the process of the user filling those lists can be seen as a process which allows the system to persuade the user even more.

Rehearsal was not utilized on any non-Finnish page of this research. The reason is the same which was stated in the previous chapter. It is not quite logical to rehearse to buy products, and there is no need for rehearsal because of the progressiveness of modern day e-commerce sites.

Three of the non-Finnish case companies utilized tailoring on their e-store. In my opinion, different information provided to different customer segments can be very good persuasion method. If the information received from the system are tailored to the potential needs and wants of a segment member, the chance of he/she becoming more interested on the information is greater.

Reduction was also utilized by three case companies. In this case, reduction appeared as logical grouping of the products and also as search functionality. The search functionality allows the user to specify precisely what kind of product is needed and narrow the search results significantly. That saves the time and the efforts of the user very much.

Personalization was utilized by every case company except for Best Buy. These e-commerce systems asked the user to register to the site and tell what product categories of the company was interesting. Amazon.com was even capable of providing personalized content based on the browsing history of the products on the site. Both of the actions help the company to reach their customers' needs and wants more efficiently, and that way also possibly increase the sales numbers.

Only eBay utilized self-monitoring on their page. Since eBay is an auction site, the customer will take part in tenders for the right to purchase the specific product. Naturally, the user has a possibility to keep track how his/her offers are doing in the tender.

Simulation was only found from Ikea's page. On the page, the user has a possibility to open a virtual application which creates an artificial room. After that the user can decorate the room as wished with the company's products and search for different solutions of decoration. In my opinion, the idea is very good. The user is more efficiently capable of visualizing the products and even becoming more interested in them.

Dialogue support

The most common findings for dialogue support on non-Finnish sites of this research were reminders and suggestion. Both principles existed on each non-Finnish site. Reminders were mostly newsletters which were sent to users' email to remind the user about the existence of the store and about its products and sales. Some of the sites sent the reminders more often than others. Some of the sites sent the reminders more often than other pages. Where some sites sent the reminders almost daily, some of the sites sent them much less often.

Suggestion was also discovered on every non-Finnish site of the research. There were plenty of different types of suggestions found. Some suggestions were given to the user on the index page of the store, so that the user sees them immediately when the page is opened for the first time. Those products were often hit products and some kind of sale products. In other words, the products which the company wants to be the most sold products.

Also some of the pages gave the user suggestions when looking at some specific product. For example, if the user is looking at some mobile phone, the system suggests products which were purchased by those users who also bought the viewed mobile phone. In my opinion, that is a great way of providing the user product suggestions. The suggested products are similar or related to the viewed product, and there is a great chance that the user is also interested to view those products, or even purchase them.

The least common principle for this principle category on non-Finnish sites was praise. It was not found on any non-Finnish site of the research. In my opinion, using praise on e-commerce sites is quite irrelevant. Of course, some of the users might like to get praised by the system for making an excellent choice but still it does not feel so

necessary. It would most likely not make enough difference between buying and not buying. In that sense, it would be waste of resources.

Three of the non-Finnish case companies utilized liking on their pages. Visual attraction of the system is very important factor. Good looking systems are more persuasive than ugly looking system. This power of visual attraction also applies to real life. Good looking people are much more capable to persuade other people than people who are not so attractive.

Similarity was found on two of the non-Finnish case companies. One way how the similarity appeared was that the systems were identifying to their customers by speaking the same language than the target customers. For example, Ikea's webpage was telling the user about fulfilling the dreams and getting inspired with decorating house with the company's products. In my opinion, that kind of language sure accost the customers of Ikea.

Two systems utilizing social role were Amazon.com and eBay. Both of the systems were capable of learning new things based on the behavior of the user. For example, Amazon.com was able to give the user recommendations based on the browsing history of the products. Also, the systems in some way seemed to be trying to speak and communicate with the user. That way the system feels more like a living entity instead of thousands of lines of plain code. In my opinion, acting with entity is much more pleasant for the user compared to acting with the opposite. When the users feel more pleasant using the system, it gives the system greater persuasive power to the users.

Best Buy was the only page utilizing rewards. The company had a customer membership program in which the users collect customer points by purchasing products. Already in the previous chapter of this thesis the great advantages of having a regular customer program were stated. In my opinion, this is something which really should be utilized much more often for e-commerce purposes.

System credibility support

On system credibility support category, the most common principles on non-Finnish sites of this research were trustworthiness and expertise. Both of the principles were discovered from every case companies' e-stores. Using trustworthiness as a persuasion tool is about creating a sense of truth for the users. In my opinion, that is very important

thing to have. Cheating the customers is not only unacceptable but also extremely stupid. When the story about tricking the customer spreads, the company reputation will be greatly damaged, and a lot of customers will be lost.

Expertise was also discovered from every non-Finnish site of the research. Every page was updated very regularly and all the information was up to date. That way the customer will get a feeling that the company knows its field well and also that increases the credibility of the system in their eyes.

The least common principles found for system credibility support on non-Finnish sites was authority and verifiability. Both of the principles did not exist on any page. There can be several reasons for the absence of both principles. The reason why verifiability did not exist on any page can be that the companies want to be so reliable that the customer does not have a need to verify the content of the site from outside sources.

Also authority was not used by any non-Finnish site of the research. In my opinion, the reason for that might be that the companies want the customer to get the feeling of credibility from the system and store itself rather than from outside sources. If the system itself is not capable of winning the trust of the user, only referring to an authority might not be enough to win the trust of the user.

Four out of the five non-Finnish case companies used surface credibility. The only page not to use surface credibility was Amazon.com. In a way this is rather subjective statement but in my opinion, Amazon.com was lacking of logicity. The index page was full of different advertises and announcements which made the page to look complex and illogical. With the page being complex and illogical, the efforts of the system user might increase and the customer satisfaction decrease.

Third-party endorsements were used by three non-Finnish case companies of the research. The endorsements were for example logos which stated that the e-store uses secure connections for paying online. In my opinion, that kind of endorsements from respected and trusted actors will definitely increase the customers' trust with the system. When the trust increases, the number of sales will increase as well.

Ikea and Best Buy were the only non-Finnish case companies to utilize real-world feel. The way how the real-world feel actually appeared on the page were for example pictures of the human workers and the real-world stores of the company. Creating a link

between the real-world activities and the e-commerce of the company will make the user feel that he/she is acting with an actual organization rather than acting with robots. In my opinion, acting with an actual organization is much more pleasant than acting with robots.

Social support

The most common findings for social support on non-Finnish sites of this research were cooperation and social learning. Those principles existed on every non-Finnish page except for Ikea. Cooperation was utilized by providing the users a possibility to write and read reviews on the products. The possibility of reading other users' opinions and tell own opinions is in my opinion very great addition to the system. People usually like to hear opinions from others and also give them great value. Many times that can make the difference between buying and not buying. If some product has received a lot of negative feedback from other users, it is more likely that the user will not either purchase the product.

As already mentioned in the previous chapter of this thesis, the ability of reading and writing product reviews can also be seen as social learning. The user is able to learn new things related to the products by reading the things written by other users. In my opinion, many times the things written by other fellow users can seem more reliable to the user compared to the information written by the company selling the products. The users writing the reviews do not have any reason to modify the truth related to the products whereas the company might have. Companies will do whatever it takes to sell the products and to increase the sales numbers.

Like on the Finnish pages of the research, also on non-Finnish pages normative influence and recognition was not discovered on any page. The reason for the absence of both principles is the same as in the previous chapter of this thesis. Both of the principles do not seem so suitable for e-commerce purposes. In my opinion, making the user feel some norms about purchasing the products feels very strange. In a way, creating some norms would be more like pressuring the users to do something.

As mentioned before, also recognition did not exist on any non-Finnish page of this research. In my opinion, recognition would probably not be very efficient method to utilize. Most of the users are doing their purchases anonymously without registering to

the system. Tracking down the unregistered user would be very time consuming and even illegal.

Two of non-Finnish sites utilized social comparison on their pages. When user is looking at some specific product, the system tells the user which products were bought by those who also bought the viewed product. In my opinion, that is comparing of the buying behaviors. The user has a possibility to compare what other users have purchased.

eBay was the only non-Finnish page of this research to utilize competition. The user is taking part in tenders for the right to purchase the product. Only the winning offer gets the product and that is clearly competition. The reason why other pages are not utilizing competition might be that there is no need to make the customers compete for the products. Every willing customer is given the right to purchase the product.

Social facilitation was only utilized on Amazon.com. On the front page there was section which was showing the products which were being looked right at the moment. In my opinion, that addition is in a way quite useless since so little share of the customers would make the decision to purchase the products based on the information given by the facilitation feature. Usually the customers make their decisions based on their need and wants rather than on what is being currently viewed.

3.3.3 Kilpa-project companies

Weapons of influence

The most common weapon of influence found on Kilpa-project companies' sites of this research was commitment and consistency. It was discovered from all three pages. On every page the user had the possibility to register to the system by creating own user account. With the existence of own account, the user is much more committed to the system than without the account. The possibility of the user returning again to the site is much greater when the account exists.

Tuonela Productions was also utilizing liking as a weapon of influence on their page. The site consisted lot of visually attractive design and pictures. In my opinion, those pictures and designs are very appealing to the target audience of the company which is people playing different role- and board games. In this research, no other weapons of influence were discovered on Kilpa-project companies' sites.

Primary task support

The most common persuasive systems design principle on primary task support on Kilpa-project companies' sites was reduction. That principle was discovered from all three sites. Some of the sites contained a search functionality which allowed the user to search for suitable products and narrow the results by selecting only the suitable alternatives. By being able to narrow down the results, the user will save a lot of time to find the desired product. With time and efforts saved, the satisfaction of the user towards the system and the probability of the user using the system again will increase. None of the other persuasive systems design principles on primary task support were discovered on the Kilpa-project companies' sites.

Dialogue support

The most common principle found on dialogue support on Kilpa-project companies' sites was suggestion. All three of the companies were utilizing suggestion. On all of the pages, there were some products of the company suggested to be viewed or to be bought on the index page of the system. In my opinion, the advantage of this kind suggestion is that when the products are suggested, the possibility of the user totally missing the products while using the system decreases significantly.

Reminders were utilized by Taitonetti and Tuonela Productions. Both of the sites sent email messages for registered users in order to remind the user about the existence of the site. In my opinion, by reminding the users about their target behavior, the possibility of the user returning to the site is significantly greater than without the reminders. By being able to make the customers return to use the system, the e-commerce will gain a lot of advantages such as increasing the sales numbers.

Tuonela Productions was the only site to utilize liking as a persuasive systems design principle. The site contained plenty of visually attractive design and pictures which in

my opinion are very appealing towards the user. When the users actually like the site, the possibility of their loyalty towards the site should increase, allowing the company to establish more long-term relationships with their customers. Kilpa-project companies of this research were not utilizing any other persuasive systems design principles for dialogue support.

System credibility support

The most common persuasive systems design principles found on system credibility support on Kilpa-project companies sites' were expertise, surface credibility and real-world feel. All of the three principles were utilized by all three companies. Each site was updated regularly and there were no out-of-date information available. Updating the system regularly and removing all out-of-date information, the system is able to create a sense of expertise which is seen as a persuasive element.

In my opinion, each site was very logical and easy to use. In each case, the first hand inspection was very positive. That creates a sense of surface credibility which can be seen as a persuasive element. In my opinion, making the system easy to use is very important thing to consider. People very often judge things based on the first hand inspection and afterwards it is challenging to change their judgments. If some site does not satisfy their wants and needs, it is absolutely sure that the users will seek for alternative sites to use. In company's point of view, potential customers will be lost to a competitor.

As already mentioned before, real-world feel was also utilized by all three sites. The sites contained pictures and information of the actual real-world organization behind the content of the site. This can be seen as a way to increase the trust of the customer towards the site. The user will receive a feeling that he/she is acting with an actual organization rather than acting with machines and computers.

Trustworthiness was utilized by ATK-central and Taitonetti. Both companies were providing actual detailed technical information related to their products whereas Tuonela Productions focused on providing information which aims to create an atmosphere related to the spirit of their game products. Trustworthiness is a great choice when the sold products are technical machines. In my opinion, detailed information related to the products is an important factor when the buying decision is being made.

Any other persuasive systems design principles for system credibility support on Kilpa-project sites of this research were not utilized.

Social support

The only principle found for social support on Kilpa-project sites of the research was social comparison. The only site to utilize the principle was Tuonela Productions. When the user is viewing some product, the system tells what other products have been purchased by those who have also bought the viewed product. This kind of functionality allows the user to compare his/her behavior with the behavior of other users. Also it allows the user to become more aware of the other product which will most likely increase the probability of the user buying the product. Kilpa-project companies were not utilizing any other persuasive systems design principles on social support.

3.3.4 Summary

Table 5. Case sites with most findings

eBay	20 persuasive systems design principles and/or weapons of influence
Walmart	16 persuasive systems design principles and/or weapons of influence
Best Buy	14 persuasive systems design principles and/or weapons of influence
Amazon.com	14 persuasive systems design principles and/or weapons of influence
Huuto.net	14 persuasive systems design principles and/or weapons of influence

The site with most persuasive systems design principles and weapons of influence were eBay. The site contained 20 principles and weapons. The site with second most principles and weapons were Walmart with 16 principles and weapons. The next sites with most principles and weapons were Best Buy, Amazon.com and Huuto.net with 14 principles and weapons each. From this top five of this research, the four non-Finnish

sites are also in the top five when talking about the popularity of the sites with most users. (Alexa, <http://www.alexa.com/topsites>, retrieved 11.1.2011)

Table 6. Case sites with least findings

ATK-Central	7 persuasive systems design principles or weapons of influence
Taitonetti	8 persuasive systems design principles or weapons of influence
Verkkokauppa.com	10 persuasive systems design principles or weapons of influence
Tuonela Productions	11 persuasive systems design principles or weapons of influence
Gigantti	11 persuasive systems design principles or weapons of influence

The site with least persuasive systems design principles and weapons of influence were ATK-central. The site contained only seven principles and weapons. The site with second least principles and weapons were Taitonetti with the result of eight principles and weapons. Verkkokauppa.com had 10 principles and weapons on their site which is the third least in this research. Tuonela Productions and Gigantti had 11 principles and weapons on their site both. From these five sites with least principles and weapons, the three Kilpa-project companies are the least popular sites of this research with least daily users. (Alexa, <http://www.alexa.com/topsites>, retrieved 11.1.2011)

Based on these results, it is possible to say that the more popular the site is, the more persuasive systems design principles and weapons of influence there is on the site. The most popular sites had the most principles and weapons whereas the least popular sites had the least principles and weapons.

Table 7. Summary of most common persuasive systems design principles and/or weapons of influence

Suggestion	On 13 sites
Expertise	On 13 sites
Commitment and consistency	On 13 sites

Surface credibility	On 12 sites
Reminders	On 12 sites

The most common persuasive systems design principles and/or weapons of influence found were suggestion, expertise and commitment and consistency. From those, suggestion and expertise are persuasive systems design principles whereas commitment and consistency being a weapon of influence. Each principle or weapon existed on every 13 case site of this research. Surface credibility and reminders were utilized on 12 case sites of this research.

Table 8. Summary of least common persuasive systems design principles and/or weapons of influence

Rehearsal	On 0 sites
Praise	On 0 sites
Authority	On 0 sites
Normative influence	On 0 sites
Recognition	On 0 sites

The least common persuasive systems design principles or weapons of influence were rehearsal, praise, authority, normative influence and recognition. Each of those was persuasive systems design principles and none of them existed on any case site of this research.

Based on these results, it is possible to say which factors are important when creating a successful e-commerce site and which factors are not important. By using suggestion as persuasion method, the system is able to raise the user's awareness on some specific product. When the awareness of the user on some product increases, the number of sales on that product will increase as well. If the user would not been made aware of the product, the possibility of the user for some reason totally missing the existence of the

product would be significantly higher. It is quite logical to say that if the user does not know about some product, he/she would not be able to buy the product.

Expertise can be seen as a crucially important factor to be used to increase the trust of the user towards the system. In my opinion, it is much reliable to act with an expert of some field rather than with amateur which might for example see the field more as hobby than a profession. People usually tend to think that those who seem like experts, most probably are experts. And expert is a synonym for person who has a first-class knowledge about something.

By using commitment and consistency as a weapon of influence, the system is able to commit the user to the system, and that way create more long-lasting relationships with the customers. The business will be more successful if it somehow is able to make their old customers to return again to use its services. That creates a steady customer base for the company. By having a steady customer base, the company will be constantly successful and there is no need to be looking for new customers all the time which also saves time and money of the company.

Surface credibility can be used a way to create a positive first-hand inspection for the user. People usually judge things based on the first-hand inspection, and if the inspection fails to please the user, changing the received image can be quite challenging. The worst-case scenario for the e-commerce business would be that the users switch over to use the services of some competing e-business. In that case, not only the money and the interest of the user will be lost but also some market share will be lost to the big rival.

Reminders were usually used to remind the user about the existence of the e-commerce and about the desired target behavior which is purchasing something from the e-store. The reminders were in this case email messages send to the registered users telling them for example about special sales and about other great deals which the user can receive by visiting the e-store. In my opinion, it is very important to send this kind of reminders to the users frequently. Nowadays there are so many actors on the field on the e-commerce that the user for some reason forgetting the existence of the business would be quite possible. The company's important mission is to make sure that the users do not forget their existence.

As already mentioned before rehearsal, praise, authority, normative influence and recognition were not utilized on any case site of this research. In my opinion, some of these principles do not even seem so suitable for e-commerce purposes. For example rehearsal does not seem suitable for these purposes. In my opinion, it is quite useless to teach the users how to buy products from the e-store. More appropriate way of solving possible problems which the user might face using the system and buying the products would be to make the system so logical and simple to use that there is no need to train anyone how to use the system. This way there would not be any need for rehearsal of how to use the system. It would be very time- and effort consuming if all the users would have to learn some tutorial about how to use the system. Buying the products online has to be so easy that the user does not even want to consider the alternative of buying the products from a real-world store.

Using praise as a way of persuading the users would not be such a bad idea but in the end, the users are able to judge themselves what things are excellent and what are not. The usage of praise in e-commerce might be a nice way to pet the self-esteem of the users but in my opinion it would not make enough difference between buying and not buying the products. For that reason, it does not make much difference whether the e-commerce system uses praise or not.

Referring to some authorities as a way persuasion did not also exist on any page of this research. In my opinion, a better idea than referring to authorities as way of increasing the trust of the users towards the system would be to create so great reputation to the company with own actions that there would not be any need for the users to relay on the words of the authorities. A great and reliable reputation is best solution in the long run in order to maximize the trust of the customers. If the customers have full trust towards the company, the probability of them using the services of the company many times is very high. When the customers use the services of the company time after time, the business will become more successful since there will be more money flowing to the company.

In my opinion, using normative influence as a way of persuading the users in e-commerce would also not be suitable solution. In majority of cases, the e-commerce helps the users to fulfill their needs and wants for the products. In other words, the users will purchase the products if they actually want or need the product. They will not

purchase the products because it is seen as norm of society. Of course there might be exceptions but the last statement applies to a majority of cases.

As already discussed before, some persuasive systems design principles do not suit very well to e-commerce purposes. In my opinion, recognition belongs to this category as well. The power of recognition is based on people's desire to uplift their status in the eyes of the other users. In my opinion, e-commerce is not used to uplift personal status. In my opinion, e-commerce is used to fulfill possible need and wants which might arise. Using recognition as way of persuasion would be more suitable for example to some gaming purposes where people compete against each other in order to lift themselves higher in the ranking hierarchy of the game.

This qualitative research was conducted in order to find out how persuasive technology was utilized on different e-commerce sites. As a result of this research, it was discovered that the more popular the site is, the more persuasive elements there is and also the most popular and least persuasion elements were discovered. Both the most popular elements and least popular elements allowed some suggestions for development of utilizing persuasive technology in e-commerce to be made in order to help creating more successful e-commerce systems easier.

4 CONCLUSION AND DISCUSSION

The aim of this Bachelor's thesis was to examine how persuasive technology was utilized on different e-commerce sites. The sites were analyzed in order to find out how many of persuasive systems design principles and weapons of influence were on each site of this research. The persuasive systems design principles were introduced in the research paper of Oinas-Kukkonen, H; Harjumaa, M. 2008. Communications of the Association for Information Systems. Persuasive Systems Design: Key Issues, Process Model, and System Features, Volume 22, Article, and the weapons of influence were introduced in the book Cialdini, R.B. 2011, Vaikutusvalta: Suostuttelun psykologiaa. Helsinki: Readme.fi.

As a result of the qualitative research conducted for this Bachelor's thesis, the sites with most and least persuasive systems design principles and weapons of influence were discovered. Also, the most used principles and weapons were discovered. Based on the results, it was possible to draw a conclusion that the more popular the e-commerce site was, the more persuasive systems design principles and weapons of influence were discovered on the page. Since the most and least used principles and weapons were also discovered, based on those it is possible to draw a conclusion of what things are more important or effective as persuasion methods for e-commerce purposes.

The results of this research could be very useful source of information for example to the Kilpa-project companies which were also examined during the research. The Kilpa-project companies' sites were the sites with least persuasive systems design principles and weapons of influence of this research, and based on the suggestions made in this research the companies could learn more about utilizing persuasive technology as way of creating more successful e-commerce system.

One suggestion for further researches on this topic would be to investigate sites from different cultures and areas, such as Asia, Europe and USA, to find out how much and what kind of cultural differences there are when it comes to persuading people in e-commerce. This kind of research would help to understand better the differences of cultures, and what it takes for example to a Finnish company to launch a persuasive and successful e-commerce system in other parts of the world.

In my opinion, I managed pretty well with this project of writing this Bachelor's thesis. As a result of the research, some actual development ideas for utilizing persuasive technology on e-commerce was suggested which most hopefully would also be seen as useful hints as someone. The only issue of which I have to give myself some criticism is the delay of completing this thesis with one month but in the end I am extremely happy of what I have managed to accomplish as result of this project.

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RESEARCH RESULT TABLES

APPENDIX 1

Table 9. Results for weapons of influence on Finnish sites

	Huuto.net	Nettiauto.com	Verkkokauppa.com	Gigantti	Pizza-online.fi
Reciprocity	X				
Commitment and consistency	X	X	X	X	X
Social proof	X				
Authority					
Liking		X			X
Scarcity	X			X	X

Table 10. Results for weapons of influence on non-Finnish sites

	Amazon.com	eBay	Ikea	Best Buy	Walmart
Reciprocity					
Commitment and consistency	X	X	X	X	X
Social proof		X			
Authority		X			
Liking			X		

Scarcity	X	X		X	X
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Table 11. Results for weapons of influence on Kilpa-project companies' sites

	ATK-central	Taitonetti	Tuonela Productions
Reciprocity			
Commitment and consistency	X	X	X
Social proof			
Authority			
Liking			X
Scarcity			

Table 12. Results for primary task support on Finnish sites

	Huuto.net	Nettiauto.com	Verkkokauppa.com	Gigantti.fi	Pizza-online.fi
Reduction	X	X	X	X	X
Tunneling				X	
Tailoring					
Personalization	X				
Self-monitoring	X				

Simulation					
Rehearsal					

Table 13. Results for primary task support on non-Finnish sites

	Amazon.com	eBay	Ikea	Best Buy	Walmart
Reduction	X	X		X	
Tunneling	X	X	X	X	X
Tailoring	X	X			X
Personalization	X	X	X		X
Self-monitoring		X			
Simulation			X		
Rehearsal					

Table 14. Results for primary task support on Kilpa-project companies' sites

	ATK-Central	Taitonetti	Tuonela Productions
Reduction	X	X	X
Tunneling			
Tailoring			
Personalization			
Self-monitoring			
Simulation			

Rehearsal			
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Table 15. Results for dialogue support on Finnish sites

	Huuto.net	Nettiauto.com	Verkkokauppa.com	Gigantti.fi	Pizza-online.fi
Praise					
Rewards					
Reminders	X	X	X	X	X
Suggestion	X	X	X	X	X
Similarity		X			
Liking			X		X
Social role					

Table 16. Results for dialogue support on non-Finnish sites

	Amazon.com	eBay	Ikea	Best Buy	Walmart
Praise					
Rewards				X	
Reminders	X	X	X	X	X
Suggestion	X	X	X	X	X
Similarity			X		X
Liking		X	X		X
Social role	X	X			

Table 17. Results for dialogue support on Kilpa-project companies' sites

	ATK-Central	Taitonetti	Tuonela Productions
Praise			
Rewards			
Reminders	-	X	X
Suggestion	X	X	X
Similarity			
Liking			X
Social role			

Table 18. Results for system credibility support on Finnish sites

	Huuto.net	Nettiauto.com	Verkkokauppa.com	Gigantti.fi	Pizza-online.fi
Trustworthiness		X	X	X	X
Expertise	X	X	X	X	X
Surface credibility	X	X	X	X	X
Real-world feel			X		
Authority					
Third-party endorsements		X	X	X	X

Verifiability		X			
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Table 19. Results for system credibility support on non-Finnish sites

	Amazon.com	eBay	Ikea	Best Buy	Walmart
Trustworthiness	X	X	X	X	X
Expertise	X	X	X	X	X
Surface credibility		X	X	X	X
Real-world feel			X	X	
Authority					
Third-party endorsements		X		X	X
Verifiability					

Table 20. Results for system credibility support on Kilpa-project companies' sites

	ATK-central	Taitonetti	Tuonela Productions
Trustworthiness	X	X	-
Expertise	X	X	X
Surface credibility	X	X	X
Real-world feel	X	X	X
Authority			

Third-party endorsements			
Verifiability			

Table 21. Results for social support on Finnish-sites

	Huuto.net	Nettiauto.com	Verkkokauppa.com	Gigantti.fi	Pizza-online.fi
Social learning	X	X		X	X
Social comparison			X		X
Normative influence					
Social facilitation					
Cooperation	X	X		X	X
Recognition					
Competition	X				

Table 22. Results for social support on non-Finnish sites

	Amazon.com	eBay	Ikea	Best Buy	Walmart
Social learning	X	X		X	X
Social comparison	X				X

Normative influence					
Social facilitation	X				
Cooperation	X	X		X	X
Recognition					
Competition		X			

Table 23. Results for social support on Kilpa-project companies' sites

	ATK-Central	Taitonetti	Tuonela Productions
Social learning			
Social comparison			X
Normative influence			
Social facilitation			
Cooperation			
Recognition			
Competition			